

CLAIMS

The invention claimed is:

1. A method for eliciting an immune response in a mammalian subject that is specific for its own telomerase reverse transcriptase (TERT), comprising administering to the subject an immunogenic composition containing a protein with at least 20 consecutive amino acids of TERT of another mammalian species, or a nucleic acid encoding said protein.
2. The method of claim 1, wherein the protein comprises at least 100 consecutive amino acids of TERT of the other mammalian species.
3. The method of claim 1, comprising administering the protein or nucleic acid to the subject on at least four different occasions.
4. The method of claim 1, further comprising subsequently administering a second composition containing a second protein with at least 20 consecutive amino acids of TERT of the same species as the subject, or a nucleic acid encoding said second protein.
5. The method of claim 1, which elicits a cytotoxic T cell response.
6. The method of claim 1, wherein the protein is full-length TERT.
7. The method of claim 1, wherein the immunogenic composition increases telomerase activity in cells surrounding the site of administration.
8. The method of claim 1, wherein the protein lacks telomerase activity when associated with telomerase RNA due to one or more changes in amino acid sequence.
9. The method of claim 1, wherein the composition contains either:
 - a plurality of different proteins, each comprising at least 20 consecutive amino acids of TERT from one or more mammalian species different from the mammalian subject to which the composition is administered, or
 - one or more nucleic acids encoding said plurality of proteins.
10. The method of claim 1, wherein the protein comprises at least 20 consecutive amino acids of any of SEQ. ID NOs:4, 6, 8, 10, and 12.

11. The method of claim 1, wherein the composition contains an adenovirus expression vector encoding the protein.
12. The method of claim 1, wherein the composition also contains a factor selected from IL-12, GM-CSF, IL-2 and MPL.
13. An immunogenic composition formulated for human administration, comprising a protein containing at least 20 consecutive amino acids of telomerase reverse transcriptase (TERT) of a non-human mammal, or a nucleic acid encoding said protein, which upon administration to a human patient having a tumor (optionally with simultaneous or sequential administration of another TERT protein or TERT-encoding nucleic acid) elicits an immunological response against human TERT.
14. The composition of claim 13, wherein the protein comprises at least 100 consecutive amino acids of said non-human mammalian TERT.
15. A combination of pharmaceutical compositions formulated for human administration, comprising:
 - a) a first composition comprising a protein of at least 20 consecutive amino acids of telomerase reverse transcriptase (TERT) of a non-human mammal, or a nucleic acid encoding said protein; and
 - b) a second composition comprising a second protein of at least 20 consecutive amino acids of human TERT, or a nucleic acid encoding said second protein;wherein administration of the compositions simultaneously or sequentially to a human patient having a tumor elicits an immunological response against human TERT.
16. The composition of claim 13, wherein the TERT protein of the non-human mammal is full-length TERT.
17. The composition of claim 13, wherein the TERT protein of the non-human mammal has telomerase activity when associated with telomerase RNA component.
18. The composition of claim 13, wherein the TERT protein of the non-human mammal lacks telomerase activity due to one or more changes in amino acid sequence.

19. The composition of claim 13, either containing a plurality of different proteins, each comprising at least 20 consecutive amino acids of TERT from one or more non-human mammals, or containing one or more nucleic acids encoding said plurality of proteins.
20. The composition of claim 13, wherein the TERT protein of the non-human mammal comprises at least 20 consecutive amino acids of any of SEQ. ID NOs:4, 6, 8, 10, and 12.
21. The composition of claim 13, wherein the composition contains an adenovirus expression vector encoding the protein.
22. The composition of claim 13, wherein the composition also contains a factor selected from IL-12, GM-CSF, IL-2, and MPL.
23. The composition(s) of claim 13, packaged with information on its use for eliciting an immunological response against human TERT.
24. The composition(s) of claim 13, packaged with information on its use for treating cancer.